Teaching Philosophy

Being a teacher is an honorable social service and I take it very seriously. I separate my classroom experience into three categories: basic, professional and doctoral courses. All courses, irrespective of their level, depth, and breadth, share a few core elements such as improving problem-solving skills, encouraging critical thinking, and broadening the scientific horizons. Each of these categories, however also has its specifics. I believe that once a course is well-digested by students, it will become a part of their permanent knowledge. Such pieces of knowledge cultivate the maturity in students and equips them with the vision necessary for their careers. Built on this philosophy, I seek three main goals in teaching a course.

First, I believe it is necessary to distill the essence of the course and help the students follow it well in order to fully capture the fundamental goal of the course. The detailed technicalities of the course should not clutter the big picture and I frequently remind the students how the details of the course are aligned with the course objective and relate to the real-world problems. This can prepare the students to better absorb the inherent value of the course material and its role in understanding tangible engineering and physical phenomenon. Understanding the course on this level assures that the students follow the logical flow of the course, which in turn, will be a very good practice for logical and analytical thinking and reasoning.

Secondly, besides following the logical flow of the course, the students should also learn the details of the technicalities involved. I try to have interactive classes, so that the students are engaged in deriving the technical results. This engagement will help them better connect with the technical details and their underlying ideas. Engaging the students has many levels including providing them with the hand-outs on the ideas to be discussed in each class, having them participate in the lectures through casting many questions in class, and regular assignments and projects.

Finally, I try to grow the analytical thinking capabilities in the students. A good approach that I have tried and have had some successful results is that after providing the students with appropriate technical tools, I have encouraged them to apply these tools to other technical problems aligned with the course objective. While the problems given to students were relevant, they were at the same time were carefully designed to have a new appearance so that the students need to uncover how these new problems associate with the problems and tools they are acquainted with. The outcome that I have observed is that the students acquire the analytical capability and the self-confidence for exploring new directions that can eventually lead them to being involved in research-oriented studies and developing new independent results.

My broad background enables me to teach courses based on the needs of the institution. This includes basic and advances courses on all aspects of information processing, statistical signal processing, and applied statistics.